Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Examination of Exclusivity and Frequency	)	PR Docket No. 92-235
Assignment Policies of the Private Land	)	
Mobile Services as Discussed in the Second	)	
Report and Order of March 12, 1997	)	
(FCC 97-61)	)	
	)	
Examination of Exclusivity and Frequency	)	
Assignment Policies of the Private Land	)	
Mobile Services for Low Power Data Networks.	)	

EX PARTE COMMENTS of

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Teklogix files these comments on September 26,1997, in the FCC's Replacement of Part 90 by Part 80 to Revise the Private Land Mobile Radio Services and Modify the Policies Governing Them, PR Docket No. 92-235. We feel that certain types of low power data users would be best served with exclusive use channels that are restricted to the confines of an industrial complex or manufacturing yard area. Also, the number of channels for low power users allowing 20.0 kHz authorized bandwidth should be increased. This will allow grandfathering of existing low power equipment and encourage use of equipment with a 19.2 kbps data rate.

RADIO FREQUENCY DATA COMMUNICATION (RFDC)

There has been a lot of concern about the effect of refarming on users of low power frequencies in the 450-470 MHz band. The low power frequencies have been heavily used for telemetry, remote operation of heavy machinery, and alarms. Another application that uses low power offset channels is the automation of materials handling and inventory control. This application has been labeled radio frequency data communication (RFDC) by the industry. Two industry publications are "Automatic I.D. News" and "Modern Materials Handling".

RFDC improves the efficiency and competitiveness of a business by providing real time inventory control. These improvements are realized by the complete elimination of paper reporting. Eliminating paper work improves accuracy and eliminates the latency that characterizes paper reporting. Incorporation of bar code scanners into the portable RF linked equipment contributes to the accuracy and ease of use of the system. The importance of these systems is shown by the fact that 28% of the 1996 Fortune 100 companies are using Teklogix RFDC equipment.

Channel Occupancy, Exclusivity

The FNPRM has discussed the possibility of allowing exclusive use of channels. The following three points are arguments for allowing exclusivity for low power data channels as used by the Teklogix equipment.

1) To be able to provide sub-second response times for the operators of the terminals, the Teklogix equipment occupies the channel from 35 to 95% of the time. It would not be possible for another user in close proximity to the system to share the channel even when the system experiences low loading and occupies the channel only 35% of the time. This is because the duration of the interruptions in the transmissions from the Teklogix base station is much less than one second.

2) Our system operates with a very efficient time division multiple access (TDMA) protocol which allows use of up to 50 terminals per simplex channel. Access to the TDMA network is possible only with equipment operating the proprietary Teklogix protocol.

3) Teklogix systems are restricted to the confines of an industrial complex or manufacturing yard area as described in the assignment limitation of section 90.35 (b)(61)(iii).

Effect of New Rules

Teklogix has prepared for the new rules by upgrading our equipment to meet the multi-mode spectrum efficiency requirements of January 1, 2005. This has been possible by using radios designed and built in America by Johnson Data Telemetry Corporation.

Our customers have in the past used low power offset secondary channels in the I/B 450-470 MHz pool. Under the new rules, new site licenses for these channels will be restricted to narrow band equipment. Furthermore, the new site licenses will allow high power on these offset channels. This poses four possible problems for users of our equipment:

1) *Interference from co-channel high power users.* Under the old rules, high power primary users were located on 25 kHz channels. This provided a minimum of 12.5 kHz frequency separation between our low power systems and any high power users. The new rules will allow co-channel high power users which will pose an increased risk of interruption in the RF data link.

2) *Interference to co-channel high power users.* Because of the high channel occupancy rate of the Teklogix equipment, it is not practical to share a channel. This has not been a problem in the past because our equipment was offset by 12.5 kHz from any high power primary user.

3) *Need to compete with crowded 25 kHz channel users for new sites that permit wide band operation for maximum data rates.* With the restriction of the 20k0 authorized bandwidth equipment to 25 kHz channels, it will be more difficult to find clear channels to operate the Teklogix equipment at maximum data rates.

4) *Difficulty in migrating to new low power channels and in obtaining primary status on existing channels.* Under the old rules, low power radio equipment was type accepted with transmitter emission mask C. Under the new rules, all new site licenses for 12.5 kHz channels are for equipment with a maximum authorized band width of 11.2 kHz. This authorized band width is obtained by meeting transmitter emission mask D. This means that to allow the grandfathering of existing low power equipment there will have to be new low power channels that allow more than 11.2 kHz of authorized band width.

Desired Rule Changes

The following is a list of changes that would improve operation and reduce interference for users of low power data equipment as supplied by Teklogix.

1) Increase the number of low power channels that allow equipment with 20.0 kHz authorized band width. We feel that an increased number of channels with 20k0 authorized band width will be required to accommodate the low power users that are forced to migrate from existing low power offset channels. Without a sufficient

number of wide band low power channels, it will not be possible for low power users to migrate. This would effectively remove the grandfather clause for existing low power users.

A sufficient number of wide band low power channels would also allow more use of equipment with a data rate of 19.2 kbps. There are cases in which the coordinates of large users are too close together to allow re-use of channels. This can be a problem for users with large systems that require multiple channels.

2) Increase the number of low power channels that have the assignment limitation of section 90.35 (b)(61)(iii) which requires operation to be restricted to the confines of an industrial complex or manufacturing yard.

3) Allow channel exclusivity on low power channels that have the assignment limitation of section 90.35 (b)(61)(iii). This could be done with an Exclusive Use Overlay (EUO) that limits co-channel assignments within 4 km of a low power base station.

Submitted by:

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